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L11	l2 and l10	170	L11
L10	(quantum or acti$4 or emit$4) near7 l1	3990	L10
L9	l5 and l8	119	L9
L8	gan or $4gan or n-gan or p-gan or (Gallium adj nitride)	316274	L8
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L5	l1 and l2	558	L5
L4	l1 and l2 \	558	L4
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L2	index-guid$4 or (index adj guid$5)	2190	L2
L1	ridge	171597	L1

END OF SEARCH HISTORY

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Candela-class high-brightness InGaN/AlGaN double-heterostructure blue-light-emitting diodes

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Candela-class high-brightness InGaN/AlGaN double-heterostructure (DH) blue-light-emitting diodes (LEDs) with the luminous intensity over 1 cd were fabricated. As an active layer, a Zn-doped InGaN layer was used for the DH LEDs. The typical output power was 1500 μW and the external quantum efficiency was as high as 2.7% at a forward current of 20 mA at room temperature. The peak wavelength and the full width at half-maximum of the electroluminescence were 450 and 70 nm, respectively. This value of luminous intensity was the highest ever reported for blue LEDs.

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L25: Entry 3 of 4 File: JPAB Jul 15, 1997

PUB-NO: JP409186404A
DOCUMENT-IDENTIFIER: JP 09186404 A
TITLE: GAN DEPOSITED WAFER AND OPTICAL SEMICONDUCTOR DEVICE

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INVENTOR-INFORMATION:

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ABSTRACT:

PROBLEM TO BE SOLVED: To obtain a GaN deposited wafer in which a GaN thin film having an excellent crystallinity is deposited by forming AlN single crystal making it possible to be chemically polished as the substrate of the wafer.

SOLUTION: The main surface made of an AlN substrate 1 of a plane (0001) is formed in a flat surface by mechanical polishing. Then, after the main surface of the substrate 1 is cleaned, dried and the polished surface is chemically etched. Subsequently, a GaN thin film is deposited on the substrate 1 by organic metal vapor growing method, thereby manufacturing a GaN deposited wafer 3. The half value width of the locking curve in an X-ray diffraction of the deposited Al 0.03Ga0.97N thin film is narrow, and the crystallinity is excellent. No defect due to the polishing damage is observed on the surface of the substrate 1 and the surface of the deposited thin film and they are flat. The wafer can be cleaved in plane (1100) or (1120) perpendicular to the wafer surface.